REMARKS

Claims 11-20 were pending in this application. Claims 11-17 were rejected, and claims 18-20 were allowed.

Claims 11-17 were rejected under 35 U.S.C. 102(b) as anticipated by, or, in the alternative under 35 U.S.C. 103(a) as obvious over each of WO '529 and DE '123, the Examiner asserting that "It is not clear how the claimed oligomers prepared by melt condensation would differ from the solution prepared oligomers of the references that are isolated from the solvent after polymerization." Claims 11-17 were rejected under 35 U.S.C. 102(b) as anticipated by, or, in the alternative under 35 U.S.C. 103(a) as obvious over Hoyt, the Examiner asserting that "It is not clear how the claimed oligomers prepared by melt condensation would differ from the solution prepared oligomers of the reference that are isolated from the solvent after polymerization."

By the present amendment applicants have added language to claim 11 reciting that the liquid crystal backbone of the claimed oligomer mixture is entirely aromatic in composition. Antecedent basis under 35 USC 112, first paragraph for this claim amendment is found in the instant specification at page 6, lines 9-12, and at page 11, lines 9-12, with particular reference to the Ar structural units, as well as to FIGS. 3 and 4, and originally filed claim 2. No new matter is being added within the prohibition of 35 USC 132.

By the present amendment claim 12 has been cancelled and is replaced with new claim 21, which is dependent upon claim 11. New claim 21 presents specificity in respect of the structural repeat units of the all-aromatic liquid crystal backbone of the claimed oligomer mixture. Antecedent support for this amendment is found in the instant specification at page 6, lines 9-12, at page 11, lines 9-12, in FIGS. 3 and 4, as well as in originally filed claim 2, which is part of the original disclosure. No new matter has been added.

As a result of the present amendment, claims 11 and 21 clearly do not read on any of the WO '529, DE '123, or Hoyt references, as these references neither disclose nor broadly comprehend the presently claimed all-aromatic liquid crystal backbone of the oligomer mixture. Accordingly, claims 11 and 21 are not anticipated by the cited art under 35 USC 102(b). Since claims 13-17 are all ultimately dependent upon claim 21, which in turn is dependent upon claim 11, claims 13-17 are also not anticipated by the cited art under 35 USC 102(b).

Furthermore, the cited WO '529, DE '123, and Hoyt references do not suggest the all-aromatic liquid crystal backbone of the oligomer mixture initially recited in instant claim 11, and which is further particularized in instant claim 21. As is understood by the skilled artisan, oligomers with such an all-aromatic backbone cannot be made according to the processes of the cited references, because such oligomers are inherently insoluble. Accordingly, one of skill in the art, with the WO '529, DE '123 and Hoyt references before him/her, would have no comprehension of oligomer mixtures having a liquid crystal background which is entirely aromatic in composition. Moreover, the skilled artisan would not have any reason to expect from these references that reactions between end caps of the oligomers in the mixture can be carried out at temperatures below those which would induce significant cross-linking within the all-aromatic liquid crystal oligomer backbone, while the degree of end-cap polymerization is being controlled by varying the length and temperature of the exposure. Indeed, the skilled artisan would not expect from the cited references that the resulting lack of significant cross-linking in the all-aromatic liquid crystal oligomer backbone would produce liquid crystalline polymers which behave as rubbers when elevated above their glass transition temperatures, rather than becoming brittle. See the instant specification at page 10, line 19 – page 11, line 1, especially page 10, line 23 – page 11, line 1. There is accordingly no evidence from the cited references which would have motivated the skilled artisan to make the modifications necessary to arrive at the instantly claimed invention. Applicants therefore assert that the invention as defined in claims 11, 21, and 13-17 is not obvious over WO '529, DE '123 and Hoyt under 35 USC 103(a). In re Jones, 21 USPQ2d 1941, 1944 (Fed. Cir. 1992) and In re Oetiker, 24 USPQ2d 1443 (Fed. Cir. 1992).

As claims 18-20 have been allowed, applicants submit that all claims in this case are either allowed, or allowable based on the present Amendment and Remarks.

The Examiner has pointed out that the present application must be amended to contain a specific reference in the first sentence of the specification thereof to the earlier application for which benefits under 35 USC 119(e) are claimed. This has been accomplished by the present amendment to the specification.

CONCLUSION

Applicants submit that in view of the present Amendment and Remarks the subject application is in condition for allowance. Early action to this cnd is requested.

Respectfully submitted,

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